

## **Fifteenmile Watershed Council Meeting**

**Barlow Ranger District Office, Dufur**

March 6<sup>th</sup>, 2018

3:30-5:00

### **MINUTES**

In attendance:

Tatiana Taylor, *SWCD*

Shilah Olson, *SWCD*

Phil Kaser, *Co-Chair*

Merle A. Keyes, *Member*

Monte Wasson, *Member*

Jim Olson, *Member*

Bill Hammel, *Co-Chair*

Jason Keller, *GeoSystems*

*Analysis*

Walter Burt, *GSI*

Stan Ashbrook

Martin Underhill, *Member*

Robert Wallace, *Wy'East*

*RC&D*

Chris Rossel, *Forest Service*

Kameron Sam, *Forest*

*Service*

Frank Cochran, *NRCS*

### **Introduction, Review/ Approval of Minutes**

Phil called the meeting to order and led introductions.

The council took a moment to review the minutes. Bill Hammel proposed to change the word “date” to “state” under the last paragraph of the first page.

*Jim Olson moved to approve the minutes as corrected, Monte Wasson seconded, and the motion passed.*

### **Phase 2 Report for 15mile Managed Underground Storage Feasibility Study- Walt Burt, GSI and Jason Keller, GeoSystems Analysis**

Walt explained that this presentation aimed to demonstrate what the team had found in the field and to determine what next steps should be taken. Walt mentioned that a few decisions could be made following the presentation. Walt explained that the team plans to perform the next series of field work through the winter and into the spring, because it best replicated re-charge for potential projects. Walt mentioned that there are potential savings if the project is completed by the end of the fiscal year. The final report will be completed by June 30<sup>th</sup>, and will be presented to the council. The council can make several decisions regarding the future of this project at that time.

Jason began the presentation by explaining three possible alternatives. The first is option vertical wells screened into the alluvial aquifer. Option 2 is horizontal well placed in the alluvial aquifer. The final option is a surface diversion with passive infiltration and collection system. Currently the team is working on alluvial aquifer testing, but the basalt aquifer option still needs testing.

Jason explained the procedure for the test pits. The team proceeded up Fifteenmile Creek and dug a total of 24 pits, which ranged from Dufur to the grange hall. The test pits were approximately 15-16 feet. The team performed hand tests for texture and measured particle size distribution. Jason showed the council the test pit locations and demonstrated the even distribution along the creek.

Jason discussed the consistency of the test pits throughout the valley. The team found silt loam to sandy silt loam soil for the first 2-3 feet of the test pits. They found increasing sand and gravel as they went deeper. The top of the alluvial aquifer was 5-12 feet deep. The alluvial aquifer is very conductive and is

made up of sandy gravel with large cobbles. At approximately 10-16 feet they found a layer of cemented sand or basalt. The alluvial aquifer saturated thickness is typically 4-5 feet. Jason noted that they assumed a depth of 10 feet in the desktop study, which was shallow to begin with.

Jason showed the council pictures of the silt and sandy loam, as well as the sand and cobbles. Jason mentioned that the alluvial material is very conductive and that although the pits were only open for 30 minutes they were already starting to fill up with water.

Walt mentioned that many of the well logs do not show sediment layer depths, but from the ones that do they had assumed a greater depth to the alluvial aquifer. The depth can change drastically throughout the valley.

Jason explained the particle size distribution found throughout the test pits. They found a distinct gradation as you move through the pit. The team also performed two tests for saturated hydraulic conductivity, which is a test that passes water through the substance. They found 1,100ft/day movement for the alluvial aquifer, demonstrating its conductivity. Jason mentioned that in the silt loam soil for the surface layer, water moved about 0.5ft/day.

Jason explained that 2,035 acre feet would need to be recharged over a four month period. The vertical wells or horizontal wells would need to collect at a target recharge rate of 8.5 cfs. Jason also mentioned that they wanted to limit draw down in the wells to 1.5 feet. These wells would be located 40 feet from the creek.

Jason explained the differences between the vertical well option and the horizontal well option. For vertical wells, there would need to be 61 wells for target recharge. The individual wells would have a single well pumping rate of 0.142cfs. Walt and Jason expressed their understanding that 61 individual wells may represent a larger fiscal barrier than desired. The horizontal well option would have a linear foot pumping rate of 0.010 cfs and would require 863 linear feet of horizontal well for target recharge.

Walt mentioned that the horizontal well would ideally be broken up into 2-3 facilities. This would help break up the amount of land needed.

Phil inquired if some areas would be more efficient to put a horizontal well in some areas rather than others. Jason replied that the valley was very uniform, and the horizontal well could go in a variety of places. Walt interjected that this uniformity was unique, and one of the first things that caught the teams' attention.

Jason explained the recharge basin area scenario. The assumptions are that the textured material near the surface would be removed (0-3 ft bgs). The other assumption is that 80% of recharge basin applied water would be captured. To get the four month target recharge rate of 8.5 cfs, there would need to be 2.53 acres for recharge areas. Walt posed the question to the council if they believed 2.5 acres could be taken out of production. This was critical to decide if more testing should be done on this option. Discussion ensued, with one landowner suggesting some of his land for the recharge basin as a possibility.

Walt discussed the teams desire to test the deep irrigation wells at the beginning of the irrigation season. If the aquifer is productive and isn't excessively bounded, Walt explained that it was reasonable to assume 1,000 acre feet from one well. The issue of how to distribute the water remains unsolved.

Jim Olson inquired if the water could be pumped back into the creek. Walt replied that although this solution would benefit stream temperature, water quality could be an issue. It is possible the groundwater may contain contaminants that wouldn't allow for pumping back into the creek due to fish habitat. The council recommended that they would like this option to be explored and remain as an alternative.

Inquiries were made about water quality and if any testing was in effect. Jason replied that during alluvial aquifer testing they will put in three wells and then test pump rates. After pumping, the team will take a water quality sample from the well and then from the creek, to test improvement in water quality. Jason mentioned that during basalt well testing they would also take water quality samples.

Jason went on to explain the proposed timeline and budget of the project. Testing for the alluvial aquifer needs to be done within the next month and testing for the basalt test during irrigation season. The team had presented the budget and timeline excluding the recharge basin assessment, and the council discussed the feasibility of this option.

The final report will be completed June 30<sup>th</sup> and the budget for the alluvial aquifer test, the basalt aquifer, and wrap-up for the project is \$82,841.

Shilah discussed grant funding for this project and noted that between OWRD and OWEB they have enough grant funding to cover approximately \$100,000. The council agreed that the team should continue with their study, and at the end of the study the council would vote to make a decision on the alternatives presented.

*Jim Olson moves to go ahead with the proposed schedule. Bill Hammel seconded and the motion passed.*

### **Updates & Announcements**

Shilah announced that there was Farm Land Access and Succession planning workshop to be held March 12<sup>th</sup> at the Pine Grove Grange in Hood River. The workshop is sponsored in part by the Wasco County Soil and Water Conservation District and will be held from 2:30-8:30 with a provided dinner.

Tatiana mentioned that she was still taking FAST sign-ups if anyone had been unable to sign-up yet.

*Phil asked the council if there were any questions and then adjourned the meeting at 5:00.*

Minutes Prepared by Tatiana Taylor